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Global Environment Facility contributions to Agenda 21

Note by the Secretary-General

In accordance with General Assembly resolution 54/218, the Secretary-General has the honour to transmit to the members of the General Assembly the report of the Global Environment Facility (GEF) entitled "GEF contributions to Agenda 21: the first decade".

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GEF CONTRIBUTIONS TO AGENDA 21:

THE FIRST DECADE

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1. In 1992 world leaders met in Rio de Janeiro to make a major course correction in earth's future.

2. The need was clear. Humanity was stressing the natural safety net on which life depends, while coming up short in assuring a basic quality of life for all people. Around the world, environmental degradation, consumption, and population grew, while gaps between rich and poor widened.

3. The poor environmental practices of individual nations could be felt across borders and seas. Land degradation, pollution, and overfishing seriously threatened food production, international waterways, and the vast global "commons"— our oceans. The scale of habitat destruction and irreversible loss of plant and animal species reached alarming levels. Scientists pointed to troubling evidence of human impacts on the atmosphere and climate. Local emissions of pollutants, accumulating globally, ate away at the protective ozone layer and threatened to warm the atmosphere. The latter posed potentially severe problems for weather, agriculture, sea levels, ecosystems, and human health.

4. At the U.N. Conference on Environment and Development, 178 governments forged an agenda for action to set the global community on a sustainable path in the 21st century. The resulting document was Agenda 21. Eight years later, much of its promise remains unfulfilled; however, many concrete steps have been taken to "halt and reverse the negative impacts of human behavior on the physical environment and promote environmentally sustainable economic development." To a considerable degree, these steps have been fostered and funded by the Global Environment Facility (GEF).

The Global Environment Facility... whose additional grant and concessional funding is designed to achieve global environmental benefits should cover the agreed incremental costs of relevant activities under Agenda 21, in particular for developing countries.

— Chapter 33, *Agenda 21*

5. Recognizing the great differences among nations in resources and capacity, Agenda 21 challenged the international community to find substantial new funding to help countries— particularly the least developed— to pursue sustainable development. GEF has been the primary source of this funding for the global environment.

6. GEF began operations in 1991 as a pilot facility to address global environmental problems. Momentum created by the Earth Summit helped transform GEF into a truly global partnership, which today counts 166 countries as members. Its over 650 projects stretch across more than 150 developing nations and countries with economies in transition. Nearly $3 billion has been allocated to these initiatives, matched by almost $8 billion more in cofinancing.

7. GEF is the designated "financial mechanism" of the two principal global environmental treaties to emerge from the Earth Summit— the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change. In other words, GEF funding brings these two international agreements to life. Similarly, GEF assistance is enabling the Russian Federation and nations in Central Asia and Eastern Europe to phase out the use of ozone-destroying chemicals in partnership with the Montreal Protocol of the Vienna Convention on Ozone Layer Depleting Substances. GEF-funded initiatives to reverse the degradation of international waters are informed by and help to realize the objectives of a mosaic of regional and

international waters agreements, including new international efforts to address persistent toxic substances. More than 60 projects that cut across GEF's biodiversity, climate change, and international waters programs also address land degradation, in cooperation with the United Nations Convention to Combat Desertification.

8. At two points in GEF's history, its contributing participants have renewed their support by replenishing the GEF Trust Fund. In 1994, 34 donors pledged $2 billion over four years for a restructured GEF as called for in Agenda 21. In 1998, 36 donors pledged $2.75 billion to fund GEF's work into the new millennium. These funds, donated by developing and developed countries alike, represent a substantial commitment by the world's nations to protect and sustainably manage biodiversity and international waters, address climate change, and heal the ozone layer.

9. The total amount of GEF funding and cofinancing is, nonetheless, small when compared with the scope of the task at hand. GEF, therefore, strives to leverage funds from other sources and mainstream action on the global environment into the programs of other international institutions, governments, and the private sector.

The United Nations Conference on Environment and Development should... identify ways and means of providing new and additional financial resources, particularly to developing countries, for environmentally sound development programmes and projects in accordance with national development objectives, priorities and plans and to consider ways of effectively monitoring the provision of such new and additional financial resources, particularly to developing countries, so as to enable the international community to take further appropriate action on the basis of accurate and reliable data...

—U.N. General Assembly Resolution 44/228

10. Adopted in 1994, the *Instrument for the Establishment of the Restructured Global Environment Facility*— GEF's "constitution"— echoes many principles of Agenda 21 and none more so than the goal of crafting programs and projects "in accordance with national development objectives, priorities, and plans." This "country-drivenness" is the lynchpin to GEF's overall efforts to ensure universal participation in all aspects of its work and transparency and democracy in its decisionmaking and operations.[1]

11. GEF supports protection of the global environment in a sustainable development framework. Around the world, GEF has helped make it possible for communities, local governments, non-governmental organizations (NGOs), and the private sector to participate in sustainable development. Ethiopian farmers are learning new ways to preserve genetic variability in their crop species. Local Bhutanese communities near Jigme Dorji National Park have a say in zoning and park protection. In Jordan, a local NGO partnered with local government and a cement plant to preserve the Dana Nature Reserve. Thousands of rural households, health clinics, and schools in some 20 countries have installed solar power systems. Whale-watch boat owners in Argentina

are collaborating with conservationists to protect sensitive portions of Patagonia's coastline. East European firms manufacturing refrigerants, foams, and other ozone-depleting substances have made the transition to less damaging chemicals, with technical assistance from GEF.

12. Broad representation in GEF's governing structures reinforces at higher levels this emphasis on participation. Representatives from all 166 member states provide overall direction through the GEF Assembly, which meets every three years. More than a thousand leaders from governments, international institutions, and non-governmental organizations participated in the first GEF Assembly in New Delhi in 1998. GEF's governing Council develops, adopts, and evaluates GEF programs; its 32 members represent 16 developing country constituencies, 14 developed country constituencies, and 2 constituencies made up of transitional economies. Unique among international financial institutions, the GEF Council welcomes the participation of representatives of non-governmental organizations in its deliberations. Other entities have looked to GEF's Council as a model of governance and a foundation for building trust and cooperation among the nations of the world.

13. GEF does not implement the projects it funds, availing itself of the different strengths and experience of three major international agencies: the United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), and the World Bank. In doing so, GEF streamlines its operations, supplements rather than duplicates others' efforts, and, significantly, helps integrate global environmental concerns into the policies and programs of these institutions. Recently, the GEF Council expanded opportunities for regional development banks (the Asian Development Bank, African Development Bank, European Bank of Reconstruction and Development, Inter-American Development Bank), FAO, and UNIDO to help countries prepare and execute GEF projects.

14. GEF ensures the effectiveness of its programs, thus maximizing the impact of the funds entrusted to it. This means developing projects that:

- Demonstrate a strong scientific and technical basis
- Apply innovative or experimental approaches to solving environmental problems that can be replicated by others
- Mobilize considerable financial and other resources.

15. One of GEF's chief strengths has been its ability to achieve greater effectiveness by internalizing lessons learned in earlier efforts. During each replenishment of financial resources, GEF has undergone a thorough re-examination of its policies and programs and then adjusted its programs and operations accordingly. Each year, GEF secretariat and implementing agency staff collaborate with GEF's monitoring and evaluation unit to extensively review and assess the progress of projects, programs, and even entire focal areas, integrating learning into ongoing work programs.[2]

FUNDING THE GLOBAL ENVIRONMENT

16. GEF's maturing program has grown to encompass a wide array of projects. They fall under four focal areas— biodiversity, climate change, international waters, and ozone depletion— and have important impacts on cross-cutting issues, most notably, land degradation. Full projects in the climate change focal area range in size from capital-intensive initiatives, such as a $35.7 million project to install wind farms and photovoltaic systems in China, down to grants as small as $900,000 for technical assistance to Peru's Centre for Energy Conservation. Modest grant amounts encourage innovation, flexibility, and responsiveness, often serving as seed money at the grassroots level. GEF's Small Grants Programme, administered by UNDP, has directed

more than $42 million in over 1200 grants to community groups and NGOs that help rural communities develop locally appropriate and innovative solutions to protecting the natural resources on which they depend. One example is a Kenyan project for household raising and selling of swallowtail butterfly pupae for export. Similarly, GEF's Small and Medium Enterprise Program, administered by IFC, channels funds through NGOs and private companies to fund pioneering and replicable small business efforts -- for example, solar-powered sewing machines for tailors. The program also promotes the conservation of biodiversity and energy conservation, such as small organic produce farms in Poland and solar home systems in Bangladesh.

17. GEF-funded activities in 133 nations are steadily building capacities to prepare national inventories, strategies, and action plans in cooperation with the U.N. Framework Convention on Climate Change and the Convention on Biological Diversity. As of March 2000, the GEF had approved 138 enabling activities in biodiversity and 157 in climate change, with total funding of $123 million. This assistance enables nations to assess biodiversity and climate change challenges from their own perspective, determine the most promising opportunities for project development, and then pursue full-scale projects with support from the international community.

18. GEF also supplies relatively small amounts of funding to help countries prepare and develop projects for consideration by the GEF Council. Such assistance comes in three forms: up to $25,000 for early project identification or preparation, up to $350,000 for information gathering needed to complete project proposals and supporting documentation, and up to $1 million to complete technical design and feasibility work for larger projects.

19. The dollar amounts that GEF directs to sustainable development around the world are magnified several times over by the funds and resources it *mobilizes*. By 2000, funds leveraged by GEF totaled close to $8 billion, a significant rallying of support for GEF goals from a variety of

sources. The largest share— more than $2 billion — has come as counterpart funding from recipient countries. Also reckoned in the total are contributions from GEF's implementing agencies, other development institutions, other governments, project beneficiaries, and, increasingly, the private sector.

20. GEF also finds ways to magnify and extend the impact of grants beyond the life of the project. For example, GEF has supported development of more than a dozen conservation trust funds, including funds in Bhutan, Brazil, Mexico, Peru, Uganda, and, more recently, Suriname. Typically created and managed by private organizations and capitalized by government, donor agencies, and other means, these are long-term funding mechanisms chiefly for biodiversity conservation. Six established funds with measurable operating experience have raised more than $33 million in non-GEF contributions, and the projects they in turn support attract additional financing, often from grantee organizations.

21. The Mgahinga-Bwindi Impenetrable Forest Conservation Trust Fund (a GEF/World Bank project) was established with $4.3 million of GEF funds and nearly $4 million in cofinancing from USAID and the Netherlands. The fund created a sense of "resource security" for managers of the Bwindi Impenetrable National Park and Mgahinga Gorilla National Park, allowing them to focus on improving the quality and scope of their conservation efforts. By attracting additional resources from bilateral donors, the fund was able to capitalize income from the endowment, rather than spend it, strengthening the long-term sustainability of the project.

22. Other cutting-edge financing mechanisms are being tested at the project level: The India Hilly Hydel project (UNDP) created a revolving fund to give soft loans to businesses and an NGO to set up demonstration hydroelectric projects. Loans are expected to reach commercial market rates gradually as the technology gains acceptance. The same is true for GEF's Alternate Energy project (World Bank), also in India, which provides low-interest loans to wind farm de-

velopers. The China Renewable Energy Promotion project (World Bank) takes a different tack for financing wind farms. It prepares pre-investment feasibility studies for potential wind farm sites to attract private investment through commercial banks. In Mauritania, a GEF project (UNDP) provides low-interest financing directly to local enterprises to install and maintain small decentralized wind electric equipment. The project also established long-term financing of rural electrification using a specialized wind equipment finance company, a standard credit mechanism for project developers, and Islamic lease finance.

ACTIONS AND EARLY IMPACTS

23. GEF's dollar investments only have meaning when considered alongside action on the ground. GEF projects engage the participation and talent of a range of local stakeholders and partners— from local governments and businesses to national and local NGOs. NGOs execute as much as 20 percent of GEF projects in terms of grant dollars. Academia and the scientific community are also counted among GEF's local partners. In addition, GEF capacity-building courses, workshops, exchanges, and study tours have trained many thousands of professionals, many of whom go on to become effective local partners in GEF's and others' efforts for sustainable development. There are numerous examples in the climate change portfolio alone: the Kenyan Association of Manufacturers were trained in energy management and efficiency; independent power producers in Sri Lanka were trained to conduct feasibility studies and undertake renewable energy projects; the Peruvian Center for Energy Conservation learned to improve the advice and support they provide to public and private industrial clients on energy efficiency and conservation savings. (UNDP)

24. Global environmental problems require long-term efforts to solve, and GEF is positioned to stay the course. Many of its programs and projects will only prove their worth over the long term. Nonetheless, GEF can point to concrete indicators of progress and results to date:

25. **Ozone-depleting substances.** Chief among these is GEF's anticipated successful conclusion of its program to reduce use of ozone-depleting substances (ODS). Since 1991, GEF has assisted 14 transitional economies of central and eastern Europe and the former Soviet Union in phasing out these materials, as mandated by the Montreal Protocol. GEF funding exceeded $138 million.[3] As a result, consumption of ozone-depleting substances decreased by 90 percent—from 190,000 tons of "ozone depletion potential" (ODP) in the late 1980s to less than 15,000 ODP tons in 1997, with a similar drop-off in production. Central and eastern European countries have completed the transition to ozone-friendly technologies, and Russia, a major source of ODSs for other countries, expects to phase out all ODS sometime in the year 2000; this will increase pressure on other countries that still consume small quantities. (World Bank, UNDP, UNEP)

26. A GEF-commissioned study of its ODS program by an outside evaluator concluded that GEF had "played a crucial role in the phase-out process in these countries, not only by providing much needed financial assistance, but by making available technical expertise, supporting learning and dissemination of project lessons within countries and regionally, and assisting in establishing suitable legal frameworks."[4]

27. **Market transformation and greenhouse gas emissions reduction.** A growing portfolio of more than 40 renewable energy and energy efficiency projects has likewise yielded early measurable results for GEF's climate change program. The program as a whole aims to remove barriers and lower costs so as to influence commercial markets toward climate-friendly technologies. Twenty-one GEF-financed projects in 20 countries are providing off-grid solar photovoltaic en-

ergy to outlying rural areas, eliminating the need to burn candles, kerosene, or liquid propane, or to charge batteries. GEF projects in Argentina, Cape Verde, China, Costa Rica, India, Mauritania, and Sri Lanka with wind power components also promise to reduce energy use that contributes to climate change.

28. Market transformation in support of energy conservation has also been a major focus of the GEF, with lessons learned in earlier projects informing subsequent initiatives. For example, Mexico's *High Efficiency Lighting* project (World Bank) successfully replaced more than 1.7 million incandescent bulbs in two cities with compact fluorescent light bulbs (CFLs), avoiding carbon dioxide emissions of 764,000 tons over a six-year period. GEF's *Poland Efficiency Lighting* project (IFC) sold more than 1.22 million CFLs over three years, directly avoiding carbon dioxide emissions of 519,700 tons at a cost of $7.48/ton. Five manufacturers, including a domestic Polish manufacturer, participated in an innovative subsidy program with joint manufacturer and GEF contributions. CFL sales rose in Poland at more than double the rate in the rest of Central and Eastern Europe, with prices declining by more than 34 percent. The final evaluation of the program links GEF activities with associated avoided carbon dioxide emissions of 2,755,000 tons at a cost of just $1.41/ton.

29. Potential reductions in greenhouse gas emissions from ongoing GEF projects in the climate change focal area promise to be considerable. The Hungary *Energy Efficiency Cofinancing* program (World Bank) expects total direct greenhouse gas emission reductions over the fund's expected life to fall somewhere between 750,000 and 1 million tons of carbon dioxide. Those expected from the *Leyte-Luzon Geothermal* project (World Bank) in the Philippines could reach as much as 120 million tons of carbon dioxide emissions over the next 25 years. GEF has approved 440 megawatts of geothermal electricity projects, about half of the 1,100 megawatts installed worldwide from 1991 to 1996.

30. **Biodiversity.** Some 350 GEF biodiversity projects are approaching the conservation and sustainable use of biodiversity in a variety of ways: for example, creating and strengthening protected areas, promoting sustainable use of forest products, identifying alternative livelihoods for communities near important habitats, supporting local eco-tourism initiatives, and conserving the diversity of crop species in the wild. Sixty three GEF projects in 75 countries combine policy reforms with on-the-ground forest conservation activities. These and 275 more projects protecting other ecosystems (arid and semi-arid lands, coastal and marine, and mountain lands) harbor millions of species of plants and animals, many unknown to science. The parameters of ecosystems conserved or sustainably managed through GEF projects are sometimes difficult to discern; however, one recent study found that 19 of 34 projects addressing protected area management potentially affect an area of nearly 117,000 square miles. The potential beneficiaries of just 10 of the 34 projects are an estimated 2 million people.

31. GEF has also provided $123 million in enabling activities to 127 countries for meeting their obligations under the Convention on Biological Diversity. These nations have inventoried their biodiversity, developed action plans and strategies for conservation and sustainable use, and reported the results to the convention. A recent monitoring and evaluation study of GEF's biodiversity enabling activities found that most supported worthwhile and cost-effective national biodiversity planning processes that resulted in well-informed and impressive strategies with reasonable assessments of current biodiversity status and trends.

32. **Unexpected and broader impacts.** One clue to GEF's potential for impact on the global environment are actions— sometimes unforeseen— taken by other bodies during or after a successful GEF project. Although it is sometimes difficult to know whether later positive developments are directly linked to a project, GEF has recorded a number of unexpected impacts:

33. For instance, donors have been known to come on board after a project has started, attracted by the goals or initial success of the project. This was the case for GEF's *Program for Sustainable Forestry* (UNDP) in Guyana, which gained considerable cofinancing from other donors not calculated in the original project's budget. In other cases, GEF projects have moved countries to action: GEF's *South Pacific Biodiversity* project (UNDP) led the island nation of Tonga to withdraw its support for renewed whaling. Initial GEF discussions about Costa Rica's wind power potential brought local private investment to the table, before GEF funds were allocated. A project in the Seychelles resulted in a moratorium on turtle harvesting.

34. Replicability elsewhere of project success is a major goal of GEF projects, although it can never be guaranteed. In the case of the Mexican efficient lighting project mentioned above, project success convinced the Mexican government to expand energy efficiency efforts to other locations and sectors, which will lead to even greater reductions in greenhouse gas emissions. The *Coal-Bed Methane* project (World Bank) in China led the Chinese Ministry of Coal to negotiate joint exploration agreements with several multinational companies. The Asian Development Bank and Asia-Pacific Economic Cooperation have developed coal-bed methane projects in China using GEF's model. Another Chinese project on nature reserve management that restructured forestry enterprises has become a model elsewhere in China on resolving land-use conflicts. The Cuba Sabana-Camaguey project developed construction guidelines that minimize environmental impacts and safeguard biodiversity that are being used elsewhere in the region.

CONTRIBUTING TO AGENDA 21

35. Agenda 21's forty chapters cover four major aspects of sustainable development: social and economic dimensions, conservation and management of natural resources, strengthening the role of major groups, and the means for implementation. As the following pages demonstrate,

GEF's comprehensive program and diverse projects resonate to the principal themes of Agenda 21 by:

- Tackling major global environmental problems, while impacting, either directly or as a side benefit, a variety of important local environmental concerns.
- Working in the spirit of Agenda 21, using approaches that promote sustainable development, while maintaining values that promote equity and fairness.
- Addressing the human condition, because many social concerns represent the human impacts of environmental problems or because the quality of people's lives simply cannot be ignored while solving environmental problems.

TACKLING MAJOR GLOBAL ENVIRONMENTAL PROBLEMS

36. Agenda 21 lays out priorities for the development and the conservation of natural resources. These are readily grouped under four broad categories: biodiversity, atmosphere, waters, and land. GEF's program makes a strong effort in each.

BIODIVERSITY

Our planet's essential goods and services depend on the variety and variability of genes, species, populations, and ecosystems. . . . The current decline in biodiversity is largely the result of human activity and represents a serious threat to human development.

— Chapter 15, *Agenda 21*

37. Earth's diverse species of plants and animals and the habitats that support them form a backdrop to human life not to be taken for granted. Genetic resources, species, and ecosystems provide new foods, medicines, and other useful products, not to mention much of the pleasure we receive from the natural world. Loss of biodiversity, however, is irreversible, diminishes the resilience of life on Earth, and profoundly impacts people the world over.

38. Agenda 21 seeks "to improve the conservation of biological diversity and the sustainable use of biological resources, as well as to support the Convention on Biological Diversity."[5] Related themes include combating deforestation and desertification; managing fragile ecosystems, such as mountainsides, deserts, and small islands; promoting sustainable agriculture and rural development; and assuring environmentally sound management of biotechnology. As the leading multilateral institution addressing threats to biodiversity and the financing mechanism for the Convention on Biological Diversity, GEF is helping to realize these priorities.

39. Biodiversity is a high priority for GEF, in terms of both dollar amounts and numbers of projects. Representing roughly 40 percent of total funds allocated, GEF has supplied over $1.02 billion for 345 projects in 120 countries. Cofinancing of $1.7 billion has been attracted from other international agencies, national and local governments, project beneficiaries, and the private sector. This means that, since its inception, GEF has steered nearly $3 billion toward the protection and sustainable use of Earth's remaining biological heritage.

40. GEF maintains close working relationships with the Convention on Biological Diversity, implementing agencies with extensive ties to developing countries, and its own network of national and NGO contacts around the world. Broad representation in its governing structure provides it unique access to policymakers and civil society and opportunities to foster cooperation

among governments, international organizations, the scientific and technical community, and NGOs.

41. GEF classifies its work in biodiversity through four general categories: arid and semiarid zones; coastal, marine, and freshwater resources; forests; and mountains. Each of GEF's biodiversity projects address one or more of Agenda 21's mandates:

42. **Conservation of biological diversity.** GEF projects help conserve biodiversity in a variety of ecosystems: forests (63 projects), coastal, marine, and freshwater environments (50 projects), semi-arid areas (27 projects), and mountains (16 projects). Since 1994, GEF has tripled its funding for both forest and waters-related biodiversity projects.

43. South Africa's Cape Peninsula mountain chain at the southern tip of Africa outranks most in its degree of plant diversity. Encompassing an entire plant kingdom (the Cape Floral Kingdom) in 188 square miles, the peninsula is threatened by uncontrolled invasive species and inadequately supported visitor facilities and management. GEF's *Cape Peninsula Biodiversity Conservation* project (World Bank) has begun preparing a comprehensive strategic plan for the entire Cape Floral Kingdom, including the eradication of alien species.

44. Patagonia's 1,800-mile coastline provides important habitat for diverse and highly interdependent wildlife, including endangered right whales, elephant seals, and Magellanic penguins. The area also supports the world's fastest growing commercial fishery and nascent wildlife-based tourism. How to balance economic growth in the region with conservation of its living resources was the focus of GEF's *Patagonia Coastal Zone Management Plan* project (UNDP). Cooperation among a complex assortment of federal and provincial governments, the private sector, research institutions, NGOs, and local stakeholders culminated in a scientifically strategic framework for investment and technical assistance to conserve biodiversity in three provinces. The project has

gained agreement from local fishers and whale-watch boat owners to use the area without harming its long-term potential.

45. **Forest conservation and management.** The earth's forest mantle provides immeasurable natural services to humankind. Even beyond genetic diversity and the obvious supply of timber and other forest products, forests protect water resources and play a role in moderating local weather and global climate change.

46. Forests are the chief focus of GEF's biodiversity portfolio, representing a cumulative total of $405 million in funding since 1991. This portfolio follows the guidance of the Convention on Biological Diversity. The bulk of these projects has been implemented by the World Bank, which has provided $181 million in cofinancing. Forty-four countries have benefited from GEF-World Bank collaborations to conserve and sustainably manage forests and develop forest resources to offset climate change. For many of these countries, GEF funding for global benefits was instrumental in persuading them to borrow funds to conserve their forest biodiversity.

47. GEF's *Conservation of Biodiversity in the Chocó Region* (UNDP) in Colombia is, in many respects, a model GEF forest initiative. While working to conserve broad regions of tropical habitat, this and many other GEF projects also support Agenda 21 goals for the sustainable use of resources and rural development. The Chocó is a region of great plant and animal diversity, as well as severe poverty. Rates of deforestation and unsustainable resource use are high. After building excellent inter-institutional coordination and genuine community participation, the project devised a development strategy based on sound science and forest management that will assure conservation of the region's renowned biodiversity, while promoting sustainable uses of forest products for local people.

48. **Managing fragile ecosystems: mountains, deserts, and small islands.** Agenda 21 notes that fragile ecosystems have unique features and resources that often transcend national boundaries. A number of GEF projects acknowledge their importance as well as address other conservation concerns.

49. The drylands that cover about one third of the world's terrestrial surface are home to a billion people and countless other species who depend on natural resources for their survival. For instance, one GEF project is working to protect Jordan's Dana Reserve, with 20 percent of the nation's native floral species and Azraq Oasis, critical wetland habitat supporting millions of migratory birds and breeding and wintering wildfowl. Unsustainable use of Dana Reserve's resources and industrial development threatened its biodiversity. Extraction of water from Azraq for urban and agricultural use endangered vital drinking and irrigation water. GEF's *Conservation of the Dana and Azraq Protected Areas Project* (UNDP) instigated a range of interventions strengthening local institutions, involving stakeholders, and building public awareness, thereby relieving stress on water resources.

50. Of the 785 million hectares worldwide of declared protected areas, some 260 million hectares are in mountains. GEF's *Mountain Areas Conservancy Project* (UNDP) focuses on the varied biodiversity and ecological landscapes of several mountain ranges in northern Pakistan. Its principal approach has been to empower local communities to manage biodiversity themselves. The project has helped them establish four wildlife conservancies representing several biogeographic zones of the high mountains. Their habitats and species will be tapped sustainably for local benefit. Already revenues from controlled hunting is funding conservation efforts and improved quality of life, for example, by bringing clean drinking water to a village from a nearby glacier.

51. **Promoting sustainable agriculture and rural development.** Other types of GEF projects are guiding local people to a sustainable future and preserving biodiversity in the productive

landscape. Farmers in Ethiopia, for example, are benefiting from GEF's *Dynamic Farmer-Based Approach to Conservation of African Plant Genetic Resources Project* (UNDP). This effort is improving on-site conservation of agricultural biodiversity by conducting research, training farmers and extension agents, building six community gene banks, and identifying incentives for conservation. The project has secured seed sources for local farmers and improved seed selection and management, while making a range of genetic material available to agriculture elsewhere in the world. GEF is initiating a new operational program in agrobiodiversity to expand the number of similar projects in its portfolio.

52. **Environmentally sound management of biotechnology.** Recently, GEF became the financial mechanism for a new international agreement on biosafety (the Cartagena Protocol on Biosafety). Its *Pilot Project on Biosafety,* implemented by UNEP, is assessing what capacity developing countries need to regulate and manage risks associated with biotechnology. Seventeen countries have received assistance in developing their national biosafety frameworks.

ATMOSPHERE

53. Chapter 9 of Agenda 21 concerns protection of the atmosphere. Prominent among its priorities and a top GEF concern is sustainable energy development and efficiency. Other mandates relevant to GEF's program include more effective design and management of traffic and transport systems, and replacing chlorofluorocarbons (CFCs) and other ozone-depleting substances with appropriate substitutes. GEF's climate change and ozone depletion focal areas fund projects that help fulfill these priorities.

54. GEF organizes its work on climate change in three operational categories:

- Remove barriers to energy efficiency and energy conservation

- Promote the adoption of renewable energy by removing barriers and reducing implementation costs

- Reduce the long-term costs of low greenhouse gas-emitting energy technologies.

Climate Change

> *The need to control atmospheric emissions of greenhouse gases and other gases and substances will increasingly need to be based on efficiency in energy production, transmission, distribution, and consumption, and on growing reliance on environmentally sound energy systems, particularly new and renewable sources of energy.*
>
> — Chapter 9, *Agenda 21*

55. GEF has built a strong, long-term program to help countries reduce their emissions of greenhouse gases and provide clean energy for development through renewable and efficient energy. As a financial mechanism for the U.N. Framework Convention on Climate Change and the single largest multilateral financer of climate change projects, GEF works to build sustainable commercial markets, leverage financing from public and private sources, and facilitate the spread of technology. Its progress has been substantial, and early results are promising. GEF strategies continue to evolve, building on lessons learned and best practices from around the world.

56. Climate change projects represent roughly 36 percent of GEF's total allocations since 1991. GEF has funded 227 initiatives through grants totaling $884 million, most of which went to 94 major projects. The greatest share of grants supported the removal of barriers to cost-effective *renewable energy* technologies, such as solar, wind, and geothermal energy. Removal of barriers to *energy efficiency* received the second largest slice of funds, followed by *commercialization of new tech-*

nologies. GEF financing for climate change projects has leveraged more than $4.9 billion in cofinancing from government counterpart institutions, bilateral donors, and local communities.

57. **Promoting sustainable development through renewable energy.** Many opportunities exist to introduce renewable energy sources and technologies in developing countries where more than two billion people still lack access to electricity. GEF projects are designed to remove barriers to realizing these opportunities as well as reducing their costs. Strong emphasis is placed on market development so that renewable energy will expand through private initiative. GEF's work in renewable energy has shown particularly visible results.

58. *Solar power.* Since 1991, GEF has funded 21 off-grid solar photovoltaic (PV) projects in 20 countries. Four more are under preparation. These promise to install as many as 1 million systems in the next few years:

- Under GEF's Small and Medium Scale Enterprise Program (IFC), three PV home system businesses (in Bangladesh, Dominican Republic, and Vietnam) have installed more than 6,000 systems under different business models

- GEF's Photovoltaic Market Transformation Initiative (IFC) will support private sector investment to expand the market and use of photovoltaics in Egypt., India, Kenya, Mexico, and Morocco.

- A partnership with the International Finance Corporation has helped launch the Renewable Energy and Energy Efficiency Fund (REEF) for developing countries and economies in transition. REEF is expected to make investments in commercial renewable energy and energy efficiency projects with GEF co-financing available for smaller and riskier projects. The net effect is to attract private investments several times the GEF contribution.

- Thanks to GEF and its partners in Sri Lanka, 500 rural households previously without power now light their homes and run small appliances using solar home systems. The project is supplying financing to Sarvodaya, a national microfinance institution, which lends funds to consumers to buy the systems from local suppliers (World Bank).

- A project approved last year for the Philippines is exploring the potential for the use of photovoltaic energy systems at hydro sites to eliminate the need for energy storage and provide a reliable source of power. This combination has the potential to create demand for thousands of megawatts of photovoltaics, an enormous increase in the current market, and shows promise for replication elsewhere (World Bank/IFC). Similar projects in Morocco and India are demonstrating the economic and technical feasibility of merging PVs with combined-cycle natural gas thermal power generation.

- GEF is supporting solar thermal technology in India, Mexico, and Morocco.

59. *Wind, biomass, and geothermal.* Projects in India, Mauritius, Costa Rica, and elsewhere are showing solid results in these alternative energy sources:

- The *India Alternate Energy Project* led the India Renewable Energy Development Agency (IREDA) to finance and commission 270 megawatts of wind power, 41 of which were commissioned by GEF and the World Bank's International Development Association and 10 with Danish funds. By project end, the number of wind power suppliers grew from three to 26, many with foreign partners, helping to reduce the installed costs of wind turbines.

- The Mauritius *Sugar Bio-Energy Project* (World Bank) indirectly catalyzed dramatic changes in electricity generation in the country. Electricity generated from sugar bagasse (wastes) increased by 168 perce... from 1992 to 1996. Several sugar mills have now made their own investments in bagasse power generation, separately from the project..

- The *Costa Rica Tejona Wind Power Project* (World Bank/IDB) encouraged the emergence of a significant wind power industry, even before the project had installed its own demonstration wind turbines. Other countries in Central America have shown interest in the Costa Rican experience.

60. *Fuel switching and production/recovery.* GEF wishes to demonstrate the commercial and technical viability of switching from coal to gas fuels and fuel production and recovery. Of 15 projects approved, four are near completion or completed: biomethanation in India (UNDP); gas production in Sichuan, China (World Bank); coal-bed methane capture, also in China (UNDP); and coal-to-gas switching in Poland (World Bank). All four have shown significant progress and impacts are being registered. For instance, conservation under the Sichuan project has increased gas recovery by 10 to 20 percent and gas reserves by 70 billion cubic meters.

61. *Renewable Energy Partnership.* In 1999 GEF and the World Bank formed the Renewable Energy Partnership. This strategic partnership will direct funds to support long-term policy and investment in renewable energy as well as to take advantage of sudden private sector opportunities meeting certain pre-agreed criteria. The partnership will also promote policy tools supporting grid-connected renewable energy in developing countries and country-based intermediaries to identify and appraise projects.

62. **Promoting sustainable development through energy efficiency.** Energy efficiency provides "win-win" opportunities— reducing greenhouse gas emissions, while, for instance, lowering electrical bills in buildings or saving people long daily searches for fuelwood. GEF has targeted a number of barriers that have prevented people from better conserving energy as well as switching to more efficient energy.

63. For instance, a GEF project promoting efficient refrigerators in China (UNDP) addresses key market, technological, social, and commercial barriers that Chinese manufacturers face in

adopting technology to make highly efficient refrigerators. A similar GEF project (World Bank) focuses on increasing the efficiency of industrial boilers. GEF's chiller projects in Thailand has used guarantees and other non-grant financing to address risks without subsidizing cost-effective technologies. Similar approaches are being applied in energy efficiency projects in Hungary and, most recently, Poland.

64. GEF's *Poland Efficient Lighting* project (World Bank/IFC) provides the best evidence of how a project can transform a market. The project sought to encourage the use of compact fluorescent lamps (CFLs) through direct subsidies, improved distribution channels, product promotion, and consumer and professional education. The project sold 1.22 million CFLs, directly resulting in savings of 436 gigawatt hours and avoiding 519,700 tons of carbon dioxide emissions. Prices of the bulbs declined in Poland. More important, foreign CFL manufacturers have been attracted to the Polish market, and more retailers carry the bulbs in their stores. GEF has funded similar projects in Mexico, Jamaica, and elsewhere.

65. **Promoting sustainable development in transportation.** Agenda 21 specifically targets the transportation sector as a means to lower pollution and emissions harmful to people's health and the atmosphere. In 1999 GEF launched a new operational program on transport. Among its emphases will be shifts to more efficient and less-polluting forms of public and freight transportation, nonmotorized transport, fuel cell or battery-operated vehicles of various kinds, internal combustion engine/electric hybrid buses, and conversion of biomass feedstock to liquid fuel. The GEF Council recently approved projects to promote fuel cell buses in Brazil and to support bikeways for suburban Manila.

. . . the total chlorine loading of the atmosphere with ozone-depleting substances has continued to rise. This can be changed through compliance with the control measures identified within the [Montreal] Protocol.

— Chapter 9, *Agenda 21*

66. Most every year, evidence of people's ability to impact global systems appears over the Antarctic and Arctic in the form of ozone holes in the atmosphere— despite the fact that much of the developed world has abandoned the use of ozone-depleting substances (ODS), such as chlorofluorocarbons. With a drop in worldwide ODS emissions, scientists are hopeful that the ozone layer will now repair itself, but, to be certain, it has been important that all nations comply with the Montreal Protocol. Developing nations have looked to the Montreal Protocol Multilateral Fund for the financial assistance to phase out these chemicals. Nations in central and eastern Europe and the former Soviet Union also have had a difficult time making the transition, but with GEF assistance they are succeeding.

67. GEF allocated nearly $148.5 million to cover the incremental costs of phasing out ODS in fourteen economies in transition. Projects for three countries are still in the pipeline. As mentioned earlier, ODS use has decreased by 90 percent since GEF's ODS program began. Most GEF ozone activities will be completed before 2001.

68. Slovenia made good use of GEF funds to phase out ODS use. In 1993 the country consumed 1,923 metric tons of ODS, chiefly in the aerosol, foam, solvent, and refrigerant sectors. Slovenia committed itself to the phase-out process and identified key policy and regulatory measures that would minimize disruption to these industrial sectors. The project provided tech-

nical assistance to seven enterprises on converting to non-ODS and facilitated cooperation among government institutions and ODS consumers. As a result, key ministries were strengthened, demand for ODSs was reduced, and the economic costs of the phase out were lowered. In the end, the project helped Slovenia phase out 345 metric tons of ODS use per year and indirectly helped phase out nearly 1,600 additional metric tons.

69. GEF financial, technical, and policy assistance played a crucial role in phasing out ODSs in this region. GEF also helped disseminate lessons learned elsewhere in the countries or region. Success also derived from the domestic commitment shown by the nations involved, careful integration of sectoral and problem-specific activities into nationwide plans and policies. and strong collaboration among GEF's implementing agencies.

WATERS

70. Water is the basis for life, but we often show little respect for it; pollution, depletion of once ample fisheries, draw down of freshwater resources, and invasive species have diminished our oceans and waterways. Agenda 21 asks nations to remedy and prevent these and other problems, addressing issues of the marine and freshwater environments in separate chapters.

71. GEF has become the largest single multilateral funder for sustainable water management around the world. Its international waters focal area tackles both marine and freshwater environmental problems through a broad ranging program that has supplied more than $329 million or 14 percent of total allocations since 1991. These funds have supported more than 100 projects in 131 nations. Additional financing mobilized from other sources has totaled $476 million over the same period. Over the next five years, the GEF will double its financial support to water and related land resources to more than one-half billion dollars.

72. Three broad categories classify GEF's international waters focal area:

- **Water-body based.** This program addresses high priority transboundary environmental problems that seriously threaten water bodies: pollution, wetland loss, overfishing, and excessive water withdrawal.

- **Integrated land and water.** This program addresses the degradation of or further damage to biodiversity-rich ecosystems that cross borders

- **Contaminant based.** This program works to overcome barriers to best practices that limit contamination of international waters.

73. GEF's success in these areas has been marked by a high degree of coordination and collaboration among governments, development assistance agencies, and donors and commitment to the task of national environment-related sectors and government institutions. The long-term nature of GEF funding has also factored into the equation.

Marine Environment

> *The marine environment— including the oceans and all seas and adjacent coastal areas— forms an integrated whole that is an essential element of the global life-support system and a positive asset that presents opportunities for sustainable development.*
>
> — Chapter 17, *Agenda 21*

74. Chapter 17 in Agenda 21 covers the protection of oceans, seas, and coastal areas, including protection, rational use, and development of their living resources. It advocates, among others, the integrated management and sustainable development of coastal areas, protection of the marine environment, and sustainable use and conservation of marine living resources in both the high seas and under national jurisdiction. Also emphasized is the sustainable development of small island nations.

75. A good illustration of GEF work in protecting the marine environment through integrated management is its *Building Partnerships for the Environmental Protection and Management of the East Asian Seas* project (UNDP). The two phases of this project have garnered $23.8 million from the GEF to prevent and manage marine pollution at demonstration sites at Xiamen, China; Batangas Bay, Philippines; and the Malucca Straits. Eleven countries participated in what has turned out to be a model of cooperative policy development among stakeholders. The project trained more than 300 professionals and enhanced waste management. China went on to approve comprehensive marine management legislation. A strategic environmental management and action plan now guides stakeholders in Batangas Bay.

76. GEF supports integrated coastal management projects in Patagonia (Argentina), Belize, the Red Sea, Georgia, Ghana, and the Gulf of Guinea in Africa, among others. These often overlap with GEF's focus on biodiversity conservation.

77. The coastal zone of Belize in Central America is among the richest in marine biodiversity in the world. This small country also boasts the largest barrier coral reef in the Atlantic Ocean. Thousands of people rely on a healthy coastal zone through jobs and earnings in fishing and tourism. The watershed supports production of key crops, such as sugar cane and fruit. GEF's project is developing and strengthening the Government of Belize's capacity for coastal zone management and is intended to demonstrate the economic benefits of balancing environmental protection with development (UNDP).

78. Small islands are subject to many threats, including marine pollution, coastal habitat degradation, and, most recently, sea level rise associated with a warming climate. GEF addresses their concerns through several projects. For instance, a GEF project helped the Small Island Developing States of the Pacific to prepare a strategic action program on land-based sources of marine pollution, coastal habitat conservation, fisheries, and watershed management (UNDP).

Freshwater resources are an essential component of the Earth's hydrosphere and an indispensable part of all terrestrial ecosystems.

– Chapter 18, *Agenda 21*

79. Nearly every freshwater body in the world is vulnerable to pollution, threatening fisheries, human health, and sources of water for drinking and industrial use. Freshwater is so vital to societies that disputes over limited water supplies have raised tensions and created conflicts. Agenda 21 focuses on protecting the quality and supply of freshwater resources. Among other things, it looks to nations to apply integrated approaches to developing, managing, and using water, while protecting water resources, water quality, and aquatic ecosystems.

80. GEF funds are bringing together nations that share access to important waterways so that they can agree on a common approach to sustainable use and development. GEF river basin projects are now ongoing for the Danube, Nile, São Francisco (Brazil), Bermejo (Argentina/Bolivia), and Mekong (Southeast Asia) rivers, among others. Various aspects of lake-based watersheds, such as Lake Victoria, Tanganyika, and Chad in Africa; Lake Ohrid, shared by Albania and Macedonia; and Lake Manzala in Egypt, are also subjects of GEF projects.

81. The lessons learned in GEF's *Developing the Danube River Basin Pollution Reduction Program* (UNDP) advanced development of other GEF freshwater projects. Linked by this river and the Black Sea, into which it flows, sixteen nations collaborated over six years on a strategic action plan. They identified 500 pollution "hotspots," matching them with the policy, institutional, and legal reforms needed to clean them up. The nations also agreed to support installation of clean technology to reduce organic and toxic discharges by 30 percent, nitrogen pollution by around

14 percent, and phosphorus pollution by 27 percent in the next decade. A similar GEF project is now working to replicate this success in the nearby Dnieper river basin.

82. Newer projects (both UNEP) in Brazil's São Francisco and Argentina/Bolivia's Bermejo river basins are taking steps to emulate the Danube success. As large as the Danube system, the São Francisco traverses five states in northeastern Brazil and is subject to the environmental demands of mining, irrigation, hydropower, and urban water supply sectors. GEF's project is helping the government implement a new national water law, including a system of pricing for water use, as well as other policy reforms. In Argentina and Bolivia, a GEF-supported project is attempting to address erosion and sedimentation that is hampering sustainable development and producing environmental headaches downstream. The project is involving all stakeholders—from communities to the national government—in an extensive collaboration to improve soil conservation and watershed management that is being integrated with existing community, municipal, and provincial programs.

LAND

Expanding human requirements and economic activities are placing ever increasing pressures on land resources, creating competition and conflicts and resulting in suboptimal use of both land and land resources. . . . it is now essential to resolve these conflicts and move towards more effective and efficient use of land and its natural resources.

— Chapter 10, *Agenda 21*

83. A number of ancient civilizations are thought to have declined and disappeared due to poor land resource management. Today, 36 African countries are jeopardized by dryland degradation or desertification; worldwide the impacts of land degradation affect as many as 110 nations.

84. Agenda 21 promotes the integrated planning and management of land resources. Chapter 10 recommends strengthening decisionmaking structures specifically to put such efforts into place. Related themes are combating desertification and drought, promoting sustainable agriculture, and combating deforestation. In fact, land degradation is a cross-cutting theme in its pages as well as in GEF's work.

85. GEF has completed or launched more than 60 major projects with components relating to land degradation. GEF funds supporting them total $350 million, and cofinancing has added more than twice that amount.

86. In fiscal 1999, the GEF Council called for a new approach to defining links between land degradation and GEF's priority programs. GEF has an action plan and timetable for increasing its support for land degradation activities.

87. GEF pays substantial attention to preventing land degradation that harms biodiversity. Thirty-nine biodiversity projects have major components addressing this problem. An additional 21 projects overlap with land degradation components in climate change (biomass renewable energy) and international waters (watersheds, wetlands, and so on) projects. All these efforts are working to conserve habitats of endemic and endangered species of flora and fauna under pressure from loss of vegetative cover and soil depletion. Examples of such projects can be found in the Comoros Islands, Burkina Faso, Ethiopia, Lebanon, Madagascar, Mauritania, Mauritius, Mongolia, Senegal, Uruguay, and elsewhere.

88. Along the border between Senegal and Mauritania, a GEF project is working to get at the root causes of biodiversity loss by rehabilitating degraded land. Specifically, it is improving techniques to restore five degraded upland and floodplain ecosystems in arid and semiarid areas.

Among other measures are strengthening fire prevention and suppression and creating increased incentives for local people to earn their incomes sustainably (UNDP/UNEP).

89. Contributions to greenhouse gas emissions can come from burning fuelwood, slash and burn agriculture, and other land uses. Solar power and other renewable energies can take the place of less climate-friendly sources, while protecting landscapes for future generations. For example, a GEF project in Lao PDR is encouraging use of energy from micro-hydro mini-grids and solar battery charging (World Bank). GEF projects pursue climate change goals, while significantly reducing land degradation. As discussed above, GEF projects that focus on the conservation and management of forests by their very nature prevent degradation of land resources, while offsetting climate change.

90. In Benin, GEF's *Village-Based Management of Woody Savanna and Establishment of Woodlots for Carbon Sequestration* project helped local people near three protected forest areas switch to energy-saving cook stoves and sustainable multiple use of forest resources (UNDP). When the project ended, they had planted more than 600,000 legume trees to provide fodder for their animals. All these actions not only prevented greenhouse gas emissions, they reduced what was once an alarming deforestation rate.

91. Prevention of land degradation is also an important element in a number of GEF waters projects, including the ongoing Bermejo River Basin project, mentioned above, and the Aral Sea Basin project in Central Asia. A new GEF project addresses the degradation of Africa's Lake Chad. Surrounded by Cameroon, Central African Republic, Niger, and Nigeria, the lake and watershed are degrading as demands for land and water reach unsustainable proportions. As many as 35 million people depend on its resources and natural services. *The Reversal of Land and Water Degradation Trends in Lake Chad Basin Ecosystem* project (UNDP/World Bank) combines $9.9 million of GEF funding with $3.3 million from the riparian nations involved to build a sys-

tem of basin governance, representing regional agreement on measures to manage Lake Chad's resources. Among other things, the project will demonstrate improved integrated management of land, water, and ecological resources. This includes stemming desertification and artificially restoring ecologically important flood flows downstream of dams.

WORKING IN THE SPIRIT OF AGENDA 21

92. Agenda 21 recognized that it is not only what nations do to achieve sustainable development, it is *how* they do it that ensures success. In the spirit of Agenda 21, GEF encourages approaches and policies that are known to contribute to sustainable outcomes or simply promote equitable results for the world's peoples.

INTEGRATING ENVIRONMENT AND DEVELOPMENT

An adjustment or even a fundamental reshaping of decisionmaking, in the light of country-specific conditions, may be necessary if environment and development is to be put at the center of economic and political decisionmaking, in effect achieving a full integration of these factors.

— Chapter 8, *Agenda 21*

93. First and foremost, environment and development should reinforce— not hinder— each other. Emphasized throughout Agenda 21, this fundamental premise now underlies most efforts for the global environment— and with good reason. Economic development cannot long advance by squandering the natural resources and systems of the planet. At the same time, people cannot engage in meaningful environmental stewardship if they do not have the ability to feed, clothe, and shelter their families.

94. Integrating environment and development has been an essential tenet of GEF projects in biodiversity, climate change, and international waters alike. Most GEF projects attempt to integrate country-based activities with national as well as local development priorities and programs:

- In Cuba's Sabana-Camaguey ecosystem, a GEF project (UNDP) produced a comprehensive regional strategic plan identifying major issues affecting sustainable development and biodiversity conservation as well as policy reforms needed to implement solutions. Particularly successful was the project's work with the tourism industry and government toward environmentally sensitive construction practices, helping to maintain healthy coral reefs and lagoons on which much of the industry depends.

- Targeting the Comoé, a highly diverse ecosystem in southern Burkina Faso and Côte d'Ivoire, the *West African Pilot Community-Based Natural Resources and Wildlife Management Project* (World Bank) is working to conserve biodiversity by helping communities manage wildlands and exploit their resources sustainably and profitably. The project is also working with the two governments to develop strategies to increase involvement of NGOs and the private sector in implementing natural resource management.

- GEF's *Mekong River Basin Water Utilization Project* (World Bank) in Southeast Asia is seeking ways to reconcile the demands of 65 million inhabitants on a river system with globally significant wetlands, flooded forests, and coastline. The project is assisting the Mekong River Commission, representing Cambodia, Laos, Thailand, and Vietnam, to promote sustainable water management, while protecting the basin's ecological balance.

ENCOURAGING PARTICIPATION OF STAKEHOLDERS AND MAJOR SOCIAL GROUPS

One of the fundamental prerequisites for the achievement of sustainable development is broad public participation in decisionmaking.

— Chapter 23, *Agenda 21*

95. In eastern and central Europe, GEF's Danube river and Black Sea projects (UNDP), described earlier, brought together a wide range of national and local stakeholders to protect the basin environment. Consultative workshops held twice in each of the six countries allowed government, industry, and NGO representatives as well as the public to participate in a complex planning effort. The result was a strong sense of ownership of the process and a strategic action plan to implement in the region.

96. Public involvement is underscored in no fewer than ten chapters of Agenda 21, which focus on strengthening the role of certain major groups in society in sustainable development, including marginalized groups such as women and indigenous groups. GEF believes public involvement is crucial for projects to achieve local, national, and global benefits. This means seeking out all who affect and are affected by project activities and spending time to gain their commitment and participation. In 1996, GEF adopted a policy in GEF-financed projects that acknowledged three means if increasing involvement: information dissemination, consultations, and stakeholder participation. It went on to state that efforts on public involvement should be broad, sustainable, and transparent and enhance the social, environmental, and financial sustainability of projects. Responsibility for encouraging public involvement should rest with the country itself, supported by implementing agencies, and take into account national and local conditions. Once enlisted, stakeholders have been known to stay engaged well after a project concludes. More

than fifty institutions, government agencies, and NGOs proposed the GEF project on the Bermejo river basin in Argentina and Bolivia (UNEP), and many of these participated in its execution. The project also reached out to people at the local level, organizing pilot demonstration projects, in which communities and local governments in many parts of the basin participated. This is but one of many examples of GEF projects that involve actors from many levels and stations in life.

At the Grassroots

97. Involving local communities is a frequent theme in GEF projects, including a number more fully described above. The Indian *Hilly Hydel* project strongly supported community participation. Its success led the government to adopt the participatory approach more broadly in developing small-scale hydroelectric power. GEF's project for Small Island Developing States (SIDS) in the South Pacific allocated $1.25 million to develop demonstration community participation subprojects. The East Asian Seas project used participatory rural appraisals and a community-based management approach in its pilot sites in China and the Philippines. Three GEF biodiversity projects— in Ghana, Uganda, and the South Pacific— sought to involve local communities by establishing local committees. In Ghana, for example, Local Site Management Committees from five areas near important coastal wetlands worked with executing agencies to identify problems and priority activities.

98. GEF projects also encourage the participation of women, indigenous groups, farmers, NGOs, and local governments:

99. *Women.* GEF's Small Grants Programme, in particular, has given considerable support and attention to the role of women in sustainable development. Women are often more sensitive to the impacts of environmental problems on their families. Enhancing their roles and capacities

within communities and strengthening their involvement in community development can have a sizeable impact on environmental problems.

100. GEF projects in Honduras, Mozambique, Nepal, Panama, Peru, Uganda, and others have components that speak to women's needs. In Honduras, a biodiversity project specifically focused on the links between natural resource management and women's workloads as well as empowering them through resource access rights and decisionmaking. The project in Panama targets women for support in generating incomes from sustainable activities and environmental education. In Mozambique, part of a community participation and development fund is geared toward microenterprise for women's groups. A Ugandan project to supply renewable solar energy to rural areas provides credit for solar home systems through a credit union–type of women's trust fund as well as a private rural development bank.

101 *Indigenous Groups.* As of February 2000 GEF had allocated more than $16 million for projects that involved or benefited indigenous groups in Africa, Asia, and Latin America.

- The Comoé project in West Africa (World Bank), mentioned earlier, is involving people from a number of different indigenous groups, including the Gur Voltaique, Dioula, and Mande in Burkina Faso and the Manding, Lobi, Palakas, Kong, Bambara, and Senoufo groups in Côte d'Ivoire.

- The Guyana *Program for Sustainable Forestry Project* (UNDP) found that its close working relationship with indigenous communities was an essential factor in its success. The project led to baselines surveys of Iwokrama rain forest's flora, fauna, timber, and nontimber resources; an operational field station; and establishment of Iwokrama as an international center for rain forest conservation by the Guyanese Parliament.

- GEF's project in the Colombian Chocó (UNDP) involved a diverse set of organizations and interests. In addition to NGOs, Colombian academia, and two scientific research groups, 27 Afro-Colombian grassroots organizations and four indigenous group organizations participated in the project's design and implementation. Bearers of traditional forest knowledge were given innovative methodological tools to conduct basic and applied research. The project's participatory approach has become a model for GEF and other institutions' projects.

102. *Farmers.* Small farmers in developing countries can be part of the solution to biodiversity conservation and land degradation. Enlisting their participation in agrobiodiversity projects is appropriate and helpful for project goals. On-farm conservation to protect genetic diversity of wild crop species is an important component of GEF agrobiodiversity projects in Ethiopia, Turkey, and the Fertile Crescent (Lebanon, Jordan, and Syria).

Strategic Partnerships

103. As demonstrated by several projects already described, many of GEF's largest projects entail complex collaboration among governments, NGOs, scientific and technical organizations, and the private sector. Multisector and multi-institutional partnerships were and are the basis for most GEF river basin and major water body projects, such as the East Asian Seas project. Others, such as the Cuba Sabana-Camaguey project, bring government, NGOs, and the private sector together to address shared environmental concerns.

104.UNEP implements several GEF projects that bring together national governments, NGOs, and research institutions. Both the *Biodiversity Country Studies* and *Economics of Greenhouse Gas Limitations* projects organized country teams to conduct research and build collaboration and stakeholder ownership on biodiversity conservation and climate change in a number of countries and regions.

105. NGOs, the scientific and technological community, and business and industry all play important roles in GEF work:

106. *NGOs.* Agenda 21 specifically identifies NGOs for an expanded role in sustainable development. Today, about 680 national and local NGOs have helped or are helping to prepare project concepts and to implement numerous GEF projects. At the grassroots, NGOs play a critical role by helping to assure integration of the needs and priorities of local stakeholders into project design and identifying and testing innovative approaches.

107. NGOs are important intermediaries in GEF's Small and Medium-Size Enterprise Program, implemented by the International Finance Corporation. To date, two international NGOs—Conservation International and World Wildlife Fund— and a number of local NGOs have made loans to small entrepreneurs at long-term low interest rates. This helps finance small and innovative businesses that address biodiversity conservation and climate change concerns.

108. GEF projects use various mechanisms to facilitate NGO participation. Brazil's São Francisco Basin project, for example, formed subcommittees headed by NGOs to address various components of the project. The NGO Danube Forum comprises more than 100 regional and national NGOs, coordinated by IUCN, World Wildlife Fund, and REC. Funds channeled through the forum have gone to some fifty NGOs working on related project goals. More than a dozen GEF-supported conservation trust funds factor NGOs into leadership positions and foster ongoing partnerships with community-based groups.

109. *Scientific and technological community.* Facilitating the contributions of scientists, engineers, architects, policymakers, and other professionals to environment and development needs little justification. Agenda 21 calls for their involvement with decisionmakers and stakeholders to

"deepen into a full partnership" through improved communication and cooperation and strengthened ethical codes of practice and guidelines.

110.GEF's 12-member Scientific and Technical Advisory Panel (STAP) provides scientific and technical advice on GEF policies, operational strategies, programs, and research priorities. A major new emphasis has been to reach out to the wider scientific community, particularly to tap the scientific expertise of GEF project countries.

111.GEF is working to improve the capacity of developing countries in sciences related to the global environment, including helping more than 120 countries draft national strategies and action plans on biodiversity and climate change through enabling activities described above. The UNEP *Global Waters Assessment*, supported by GEF, is helping scientific communities in developing countries to assess and plan for management of their water resources. Similar global assessments include the *Global Biodiversity Assessment* and the *Regionally Based Global Assessment of Persistent Toxic Substances*. Individual projects often involve local scientists. GEF's Colombian Chocó project, for example, involved academics from six universities and two scientific research groups.

112.*Business and industry.* Private capital flows to developing countries are now five times greater than official development assistance. Business choices could impact the environment through air and water pollution, ozone-depleting substances and greenhouse gases, deforestation, and land degradation. The immense resources, know-how, and drive of the private sector could be harnessed for sustainable development. This would provide an engine for sustaining and replicating global environmental projects.

113.Agenda 21 urges involving businesses and industries as full participants in implementing and evaluating activities that promote cleaner production and responsible entrepreneurship. Almost

all GEF projects involve the private sector as project developers, implementers and financers; as sources of goods, services, and new technologies; or as vehicles for technology distribution. In 1999, the GEF Council approved ways of encouraging a greater engagement with the private sector. These include ongoing efforts to remove barriers to the creation of, entry to, or transformation of markets that support global environmental objectives; a range of non-grant financing modalities; alternative bankable feasibility studies; and longer term partnerships.

114.In Batangas Bay, Philippines, GEF's East Asian Seas project (UNDP) included the private sector in framing major policies in managing the area's deepwater port. The project also actively developed private/public partnerships, especially in waste management. Significantly, the private sector, represented by the Batangas Coastal Resources Management Foundation, gained a seat on the newly created Batangas Bay Region Environmental Protection Council, alongside various government and nongovernmental members. Membership spurred the foundation to take decisive action to, among others, develop management and action plans addressing pollution, coordinate industry-government agreements for voluntary waste reduction, and supply equipment and expertise in oil spill response exercises.

- In Brazil, all stakeholders, including private timber operators, actively participated in developing GEF's *Promoting Biodiversity Conservation and Sustainable Use* project, cofinanced by Peugeot and Banco Axial. In Venezuela, GEF's *Conservation of Biological Diversity in the Orinoco Delta Biosphere Reserve* project received funds from two large investors, Petroleos de Venezuela and the Corporacion Venezolana de Guyana and the cooperation of the palmito industry.

- Two GEF projects in China transferred western technology on energy-efficient refrigerators and industrial boilers through the private sector. Around the globe, hundreds of thousands of compact fluorescent lamps have replaced less-efficient incandescent bulbs, channeled through pri-

vate suppliers with incentives provided through GEF projects. GEF projects are removing barriers to expanding markets in renewable energy sources, such as solar, wind, geothermal, and biomass, and developing new markets, such as for environmental services provided by forest ecosystems in Costa Rica.

ENABLING PEOPLE TO BUILD A SUSTAINABLE FUTURE

The ability of a country to follow sustainable development paths is determined to a large extent by the capacity of its people and its institutions as well as by its ecological and geographical conditions. . . . the need to strengthen national capacities is shared by all countries.

— Chapter 37, Agenda 21

115. The countries that work with GEF and its implementing agencies come to projects with widely varying capacities. To build ownership and sustainability, people and institutions must gain the skills and abilities needed to do much of the work themselves. Agenda 21 recognizes capacity development as crucial to implementing its program. This includes training, institution strengthening, the transfer of technology, education, and awareness campaigns, all GEF priorities.

116. *Training.* Since 1991, GEF has conducted hundreds of workshops, courses, study tours, and other training events.

- The Cuba Sabana-Camaguey coastal project (UNDP) trained 500 people in fields related to geographic information systems, biodiversity, environmental research, among others.

- GEF's biodiversity conservation project in Vietnam (UNDP) arranged short-term international scholarships and study tours for various professionals.

- A pollution control project for Africa's Lake Tanganyika (UNDP) conducted numerous courses in fishing practices, environmental education methods, GIS, and underwater surveying.

- Financial and economic analysis and feasibility studies on energy-efficient Russian residential buildings was the focus of training for heating, gas, and other local businesses by one GEF project (UNDP).

- The Asia Least Cost Greenhouse Gas Abatement Strategies (ALGAS) project (UNDP) extensively trained scientists and others in 12 participating states on quantifying and inventorying greenhouse gas emissions, identifying ways to reduce emissions or enhance sinks, and develop national policies and plans.

117. *Institution strengthening.* This can involve both improving the abilities of existing institutions or creating new institutions or structures.

118. For instance, the Indian Renewable Energy Development Agency (IREDA) received assistance from a GEF project (World Bank) to strengthen its ability to promote and finance private sector investments in wind power. GEF's Small Grants Programme has had notable success in strengthening NGOs and community-based organizations, which improve their ability to prepare viable proposals, plan for community participation, manage financial resources, and meet donor reporting requirements. GEF's *Thailand Electricity Efficiency* and *West Africa Building Energy Efficiency* (both World Bank), and several other GEF projects helped strengthen regulatory frameworks through, for example, design, implementation, and enforcement of building codes and standards.

119.Sometimes, institution strengthening involves creating entirely new institutions or networks. In Belize, a GEF project brought together a number of government agencies dealing with coastal zones under one agency, and the Gulf of Guinea project in Africa built an electronic network of 350 managers and scientists on matters relating to ecosystem degradation, socioeconomic impacts, and management measures to improve environmental quality and livelihoods. New types of credit mechanisms are featured in a number of GEF renewable energy projects, and, as noted above, thirteen conservation trust funds were created with GEF support.

120.*Transfer of technology.* Technology transfer is a central element in climate change projects, many of which have already been described. GEF projects in this focal area often install and demonstrate equipment, such as solar home systems, compact fluorescent lamps, and more efficient motors, to inspire expanded installation by others. Many of these projects are the first of their kind in the country concerned. GEF's ALGAS project, described earlier, is supporting research on renewable energy applications that show promise for reducing long-term technology costs.

121.GEF's program to eliminate use of ozone-depleting substances also turned to new technologies to remedy the situation. Its projects in the Czech Republic, Hungary, Slovenia, and others phased out chlorofluorocarbons by substituting low and non-ozone-depleting foam technologies, for example. A new initiative in Thailand supports introduction of energy-efficient air conditioners that use ozone layer–friendlier substances.

122. *Education and awareness.* To know is to understand, and with understanding comes support and action. For this reason, GEF projects invariably include education and awareness components. Public awareness campaigns, classroom education, and public information meetings all serve to build an environment in which GEF projects can thrive, as well as raise interest in doing more.

123. The Jordan Dana Reserve and Lebanon Protected Areas Projects both credit public awareness raising with enhancing the overall enabling environment for their work. In Tunisia, consumers learned about solar hot water heating through a GEF-financed promotional campaign, and consumer education and outreach programs in Jamaica, Mexico, and Poland were essential to increased sales of compact fluorescent lamps. The East Asian Seas project found that strengthening public awareness helped it maintain transparency and continuity in future actions. Replication of integrated coastal management has begun at three sites in China and is planned for three in the Philippines.

BUILDING A SUPPORTIVE BROADER CONTEXT

124. One of GEF's strengths is its ability to step back and look at the whole. What broad assistance do countries need to design and implement successful projects? Where do gaps exist in scientific or technical knowledge helpful to sustainable development? How can projects better address their concerns? GEF funds a number of global projects that build international or regional scientific capacity in support of country efforts. The following efforts help fulfill three of Agenda 21's stated priorities:

125. **Cooperation for capacity building.** GEF has learned that capacity development is more than merely conducting workshops and transferring equipment. It is a complex process of organizational change and innovation, requiring growth and change in individuals, organizations, and institutions alike. To be effective, the process requires careful assessment of capacity needs and broad interventions over a lengthy period of time. In recent years, GEF began to question whether the experience it had gained in this area warranted a more comprehensive, programmatic approach to improve its country-level impact.

126. In fiscal 1999, the GEF Council approved a strategic partnership with UNDP—called the Capacity Development Initiative—to develop a comprehensive approach to building country capacities. Over 18 months, the effort is considering lessons learned in GEF projects as well as experiences from GEF's three implementing agencies and other partners. It will address in particular the interrelationships among individuals, institutions, and overall systems. The goal is to develop a strategic approach to capacity development that is firmly rooted in the reality of developing countries and a new, comprehensive GEF intervention that more effectively assists countries in developing global environmental capacities at all levels.

127. **Science for sustainable development.** "Scientific knowledge should be applied to articulate and support the goals of sustainable development through scientific assessments of current conditions and future prospects for the Earth system."[6] Three major GEF-funded UNEP projects help fulfill this point in Agenda 21. The *Global Biodiversity Assessment*, completed in 1995, compiled and analyzed, for the first time, current knowledge on the main issues in global biodiversity. This state-of-the-art, independent, peer-reviewed scientific analysis provides a standard scientific reference, helping policymakers, scientists, and NGOs better contribute to conservation and management of the planet's biological wealth. Its development also strengthened a network of scientific experts from a variety of disciplines. The *Global International Waters Assessment* and *Regionally Based Global Assessment of Persistent Toxic Substances* projects, now under way, are intended to provide the same kind of basis for improved scientific understanding in international waters and toxic substances.

128. GEF goes beyond such assessments to develop methodologies for scientists in developing countries to use in conducting biodiversity and climate change country studies and assessments. GEF also funded a UNEP project to establish a methodological framework for climate change mitigation assessment in its *Economics of Greenhouse Gas Limitations Project.*

129. Other GEF research projects seek to find scientific solutions to problems faced the world over. UNDP's GEF-funded *Alternatives to Slash and Burn Project* assembled scientists in eight benchmark institutions to find alternatives to this destructive agricultural practice. Participants standardized methodologies as well as assessing biophysical and socioeconomic characteristics, analyzing impacts, and increasing awareness of alternatives. Another GEF project is looking at the threat to native biodiversity posed by invasive exotic species in eight countries (UNEP). The objective is to determine best practices in recognizing, evaluating, and mitigating invasive species threats by examining current tools and approaches.

130. **Information for decisionmaking.** As Agenda 21 points out, everyone uses and provides information. From decisionmakers at the national level to those at the grassroots, data, experience, and knowledge are all essential to sustainable development. Agenda 21 emphasizes the need to bridge data gaps and improve the availability of information. Several GEF projects do just that:

- UNEP's *Country Case Studies on Sources and Sinks of Greenhouse Gases Project*, funded through GEF, provided the greenhouse gas inventory data required by countries to determine where action would provide the most effective results.

- The *Biodiversity Data Management Project* (UNEP) collaborated with the World Conservation Monitoring Centre to finance surveys of sources of biodiversity data, creating information networks, and develop biodiversity data management plans in ten countries.

- A recent $750,000 GEF grant will fund a technology transfer clearinghouse to redirect commercial investment decisions to cleaner technologies (UNEP). The project's appraisal services will help loan officers evaluate applications for efficient or renewable energy projects, assuring that they are carefully targeted to private sector borrowers and their lenders.

131.GEF's program is grounded in promoting a sustainable quality of life for people and communities. Directly or indirectly GEF projects cut across issues of immediate concern to people— poverty, disease, local pollution, and so on— and whose alleviation is emphasized in Agenda 21.

POVERTY

The eradication of poverty and hunger, greater equity in income distribution and human resource development remain major challenges everywhere. The struggle against poverty is the shared responsibility of all countries.

— Chapter 3, *Agenda 21*

132. GEF projects address poverty in a number of ways, among others, by promoting sustainable agriculture and rural development; providing microcredit; preventing land degradation and protecting natural resources for sustainable use; protecting crop species; and extending renewable energy and lowering its cost to communities.

133. GEF projects help local people identify and/or adopt new approaches and alternative livelihoods that sustain the environment, while maintaining or improving their standard of living. Coastal zone management in Belize, supported by GEF, is beginning to restore stocks of commercially important species, such as lobster, conch, and other reef fish, that sustain local fisheries. A GEF project helped find new trades for carvers of the shells of the endangered hawksbill turtle in the Seychelles and encouraged small businesses in fruit, herb, and honey products harvested sustainably from Jordan's Dana Reserve.

134. An independent review of climate change projects, commissioned by GEF, concluded that its efforts in this arena were achieving "important development benefits." GEF's *Renewable Energy Project* in Ghana, for example, targeted some of the poorest households in the northern part of the country to receive renewable energy-based electricity services at an affordable cost (UNDP). GEF's roughly twenty off-grid solar photovoltaic projects all promote rural development by stimulating commercialization of solar PV, expanding access to this renewable energy.

135. GEF biodiversity projects often include components for poverty reduction. A new project in Morocco (UNDP) to conserve globally significant biodiversity in the Southern High Atlas Mountains, for example, is studying ways to intensify agriculture to increase production, while reducing impacts on important biodiversity. The project has also partnered with the local NGO NEF to introduce improved stoves, train women in primary health care, and promote sustainable ways to generate income in Ouarzazate Province, which includes three villages in the project zone.

136.The community-based conservation approach of GEF forestry projects implemented by the World Bank helps address the high incidence of poverty usually found in buffer zone communities, although the results are not easy to measure. One-third of its 44 forestry projects explicitly include poverty reduction as a project justification. Approaches usually include finding sustainable, low-impact alternatives for generating income in these communities, such as ecotourism and harvesting nontimber forest products on a sustainable basis.

137.GEF's Small Grants Programme funds community-based activities that address local aspects of global environmental challenges in 46 countries around the world. Grants specifically target poor, rural communities in which livelihoods depend directly on the natural resource base.

HEALTH

Health and development are intimately interconnected. Both insufficient development leading to poverty and inappropriate development resulting in overconsumption, coupled with an expanding world population, can result in severe environmental health problems in both developing and developed nations.

— Chapter 6, *Agenda 21*

138. Poverty is closely linked with prospects for human health, and environmental problems have a direct impact on both. Environmental health issues, however, are not restricted to poverty-stricken areas in developing countries. Air and water pollution and contamination of the land can affect human populations across the board, leading to respiratory and waterborne diseases and possibly long-term impacts on human immune systems, reproduction, and development. In addition, scientists are now assessing the current and potential impacts of global atmospheric changes on human health; these could be diverse and severe.

139. *Water pollution.* GEF is helping reduce health risks from water pollution in both rural and urban areas. Central to a number of major GEF international waters projects is reducing pollution from industrial and municipal wastes and agricultural runoff, which threaten water for drinking and other purposes. The Black Sea project to implement a strategic action plan identified and quantified all sources of pollution and sought to harmonize water quality standards. GEF's Danube River efforts addressed urban wastewater, solid waste, and agricultural runoff problems. In Africa, a project for the Gulf of Guinea large marine ecosystem formulated a program for pollution control and set up demonstration sites for waste reuse and recycling. Reducing ship-generated waste is the focus of two projects in the Caribbean, and Small Island

Developing States in the Pacific are integrating land and water resource management to protect drinking water supplies.

140. *Air pollution.* Projects that reduce emissions of greenhouse gases or ozone-depleting substances help reduce local levels of air pollutants as well:

- The *Efficient Industrial Boilers Project* in China (World Bank) is adapting high-efficiency foreign technologies to coal-fired industrial boilers in certain urban areas, reducing emissions of pollution. Not only will this reduce greenhouse gas emissions, residents will breathe healthier air. Once proved successful, the technologies will be introduced to many more Chinese cities.

- The *Poland Efficient Lighting Project* (World Bank/IFC) reduced emissions from coal-fired generation plants by over 600,000 (CK) metric tons, again reducing atmospheric emissions as well as local air pollution.

- GEF projects that introduce more efficient cook stoves also help reduce indoor air pollution directly improving household health.

141. *Persistent toxic substances.* GEF has recently taken a special interest in the health impacts of pesticides, industrial chemicals, and unwanted by-products of industrial processes or combustion. These substances accumulate in the food chain and may act as "endocrine disrupters," suppressing immune systems and affecting reproductive and developmental systems. GEF has funded preparation of a number of projects addressing sources of persistent organic pollutants, mercury, and pesticides (DDT). These efforts include the *Regionally Based Global Assessment of Persistent Toxic Substances Project* to provide guidance and set regional priorities and *Reducing Pesticide Runoff in the Caribbean.* Others concern alternatives to DDT for vector control in Mexico and Central America, country case studies in persistent toxic substances, and persistent organic pollutants as they relate to food scarcity and indigenous groups in Arctic Russia.

142.*Environmental safety issues.* Safety is another factor in human health that is also addressed in some GEF projects. The China Coal-Bed Methane Project (UNDP), for example, is introducing technology to capture methane released during coal mining as an energy source. Side benefits include helping prevent underground mine explosions and providing a clean source of energy for household use.

143.*Atmospheric change.* GEF's and others' work to moderate climate change and protect the ozone layer has global ramifications on long-term prospects for human health. A 1997 GEF review of the environmental health dimensions of these atmospheric challenges concluded that overall health effects "are likely to be wide-ranging and negative."[7] Direct impacts, such as skin cancer, cataracts, and injuries from more severe storms, floods, and forest fires, are likely to be far outweighed by indirect impacts, the report stated. These include, but are not limited to, impaired food production exacerbating malnutrition in vulnerable populations, increased diarrheal disease due to changes in water quantity and quality, and the spread of infectious diseases into new geographic locations. New diseases may emerge and those once controlled or eliminated may re-emerge, even in developed countries. Significantly, new research shows that the combined health effects of common pollutants can be 1,000 times stronger than they are individually.

CLOSING

Agenda 21 is a dynamic programme. It will be carried out by the various actors according to the different situations, capacities and priorities of countries and regions in full respect of all the principles contained in the Rio Declaration on Environment and Development. It could evolve over time in the light of changing needs and circumstances. This process marks the beginning of a new global partnership for sustainable development. (Preamble, *Agenda 21*)

144.Global environmental protection and the pursuit of sustainable development are not just a matter of money or even well-designed projects. What makes or breaks these efforts is people: outstanding project managers, dynamic community-based organizations and community groups, dedicated public servants in research institutes, government ministries, and policymaking bodies, scientists and business leaders determined to play their part to the best of their abilities.

145.In her preface to *Our Common Future*, Norway's former prime minister Gro Harlem Brundtland wrote, "Perhaps our most urgent task today is to persuade nations of the need to return to mulilateralism." These words are just as true today as they were in 1987. The ongoing challenge has been to marshal the will to translate scientific and technological understanding into economically feasible, and politically achievable, actions that benefit people in all nations.

146.It is clear, however, that governments alone can't get the job done. It is only through an alliance of institutions that the requisite "sea change" in local, national, regional, and global policies can come about. The GEF is attempting to accelerate the creation and evolution of these partnerships within and among its 166 member nations, its implementing agencies (UNDP, UNEP, the World Bank), regional development banks, more than 500 collaborating non-governmental organizations, the scientific community, and the numerous business enterprises increasingly needed to carry solutions far and wide.

147.In sum, GEF's success since Rio is due to a number of institutional as well as operational factors, specifically:

- Its ability to translate vision and concepts into viable actions;

- Its unique role as a catalyst for sustainable development while respecting national priorities;
- Its role in support of the Rio Conventions, the Convention on Biological Diversity, the U.N. Framework Convention on Climate Change and the Desertification Convention;
- The institutional arrangement of a small and efficient entity that relies on existing, proven organizations for implementing its actions on the ground;
- Its demonstration of new and renewable energy technologies in collaboration with the private sector, specifically for developing countries;
- Its integrated approaches for land, water, and biodiversity conservation;
- The many tangible partnerships with NGOs, governments, and the private sector.

148.GEF pursues this agenda with a sense of urgency and the understanding that humanity is, more than ever, truly racing against the clock. With innovation and efficiency, the threat of global climate change can be reversed in the 21st century. International waters problems, particularly the over-exploitation of living resources, can be reversed in decades. If countries continue to do away with ozone-depleting chemicals, the protective shield that stands between us and the sun's damaging rays could heal itself by 2050. Much can be done to save earth's diversity for future generations and better use resources to benefit many more people in the decades ahead. As a principal actor in the new global alliance for sustainable development and protection of our global commons, the GEF will continue to lead the way.

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